



MOTOROLA

EX PARTE OR LATE FILED

RECEIVED

OCT - 7 1994

DOCKET FILE COPY ORIGINAL

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

October 7, 1994

Mr. William Caton
Acting Secretary
Federal Communications Commission
1919 M Street, N.W., Room 222
Washington, DC 20554

Reference: PR Docket No. 92-235 (Refarming)

Dear Mr. Caton:

Pursuant to Section 1.1206 of the Commission's rules and regulations, Motorola hereby reports that ex parte presentations were made by representatives of Motorola on October 7, 1994 to Kathryn Hosford and Joseph Levin of the Private Radio Bureau to discuss the above-referenced proceeding.

A copy of the materials used in the presentation to Ms. Hosford, some of which were filed previously in this docket, is attached hereto.

Sincerely,

Stuart E. Overby
Assistant Director, Spectrum Planning

SEO:aml

cc: Kathryn Hosford
Joseph Levin

No. of Copies rec'd
List A B C D E

041



MOTOROLA

REFARMING KEY ISSUE: FITTING THE TECHNOLOGY TO THE ENVIRONMENT AND USER REQUIREMENTS

RECEIVED

OCT - 7 1994

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY



MOTOROLA

CURRENT U.S. PRIVATE LM ENVIRONMENT BELOW 800 MHZ

25 MHZ OF SPECTRUM NATIONWIDE FOR PRIVATE LAND MOBILE *

13 MILLION LICENSED TRANSMITTERS

IMBEDDED USER INVESTMENT: OVER \$25 BIL

WIDE VARIATION IN USER REQUIREMENTS/SOLUTIONS:

COVERAGE: ON-SITE TO STATE WIDE

CUSTOM FEATURES

GRADE OF SERVICE

COST

MULTIPLE SYSTEMS ON THE SAME CHANNEL IN THE SAME CITY

OVERLAPPING BANDWIDTH ON ADJACENT CHANNELS

*** ALSO, 6-12 MHZ AVAILABLE IN 11 URBAN AREAS THROUGH LM/TV SHARING**

Refarming Below 470 MHz
Private Land Mobile Spectrum

<u>Service</u>	<u>24 - 50 MHz</u>	<u>Channels</u>	<u>450 - 470 MHz*</u>
		<u>150 - 174 MHz</u>	
Business	36	26	155
Industrial	216	116	61
Land Transportation	<u>59</u>	<u>167</u>	<u>34</u>
Sub-Total	311	309	250
Public Safety	<u>321</u>	<u>244</u>	<u>74</u>
Total	632	553	324
Spectrum	13 MHz	9 MHz	16 MHz

*Does Not Include 615 Low Power 12.5 KHz Offset Channels

Spectrum Profile

150 - 174 MHz

- **Almost Every 15 KHz Channel in Use in Major Urban Areas Utilizing Geographic Separation**
- **Most Systems Are Single Frequency Simplex**
- **Adjacent 15 KHz Channels Not Co-Sited**
- **Service Groups Have Contiguous Channels**

450 - 470 MHz

- **Paired 25 KHz Channels**
- **Base Station or Mobile Relay Operation**
- **Low Power 12.5 KHz Offsets Heavily Used in Many Services**
 - **Secondary Mobile Only Operation**
- **Service Groups Have Contiguous Channels**



MOTOROLA

LEVELS OF COMPATIBILITY AND IMPACT ON THE USER

1. SINGLE MODE

- ABRUPT MIGRATION**

2. DUAL MODE

- A PARTIAL SOLUTION**

3. INTEGRATED BACKWARD/FORWARD COMPATIBILITY

- TOTAL INTEROPERABILITY DURING MIGRATION**



MOTOROLA

TECHNOLOGY

MOTOROLA MANUFACTURES FDMA, TDMA, AND CDMA PRODUCTS

USERS BUY SOLUTIONS, NOT TECHNOLOGY

A TWO STEP 12.5/6.25 KHZ PLAN ALLOWS ALL TECHNOLOGY OPTIONS

- LOW COST 12.5 FM ANALOG (AVAILABLE TODAY)**

- APCO PROJECT 25 DIGITAL FDMA**

- TDMA (MULTIPLE SLOTS IN 25 KHZ)**

- 6.25 ANALOG OR DIGITAL FDMA**

Spectrum Refarming FDMA vs. TDMA -- Where There is No De Facto Exclusivity --

FDMA

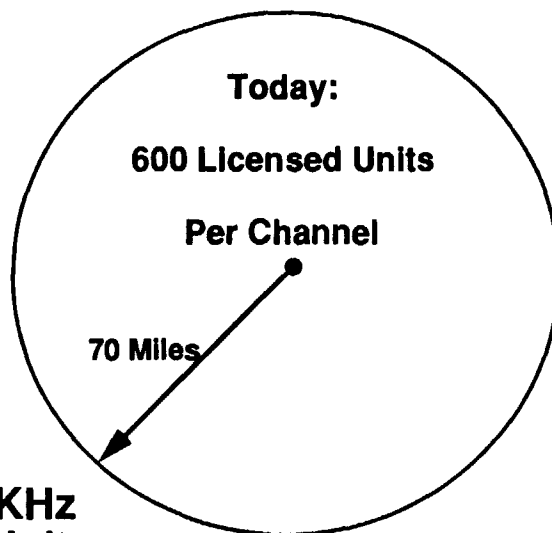
Step 1

**600 Units Per
25 KHz Channel
x 2 = 1200 Units
on 2 12.5 KHz
Channels**

Step 2

**1200 Units Per 12.5 KHz
Channel x 2 = 2400 Units
on 4 6.25 KHz Channels**

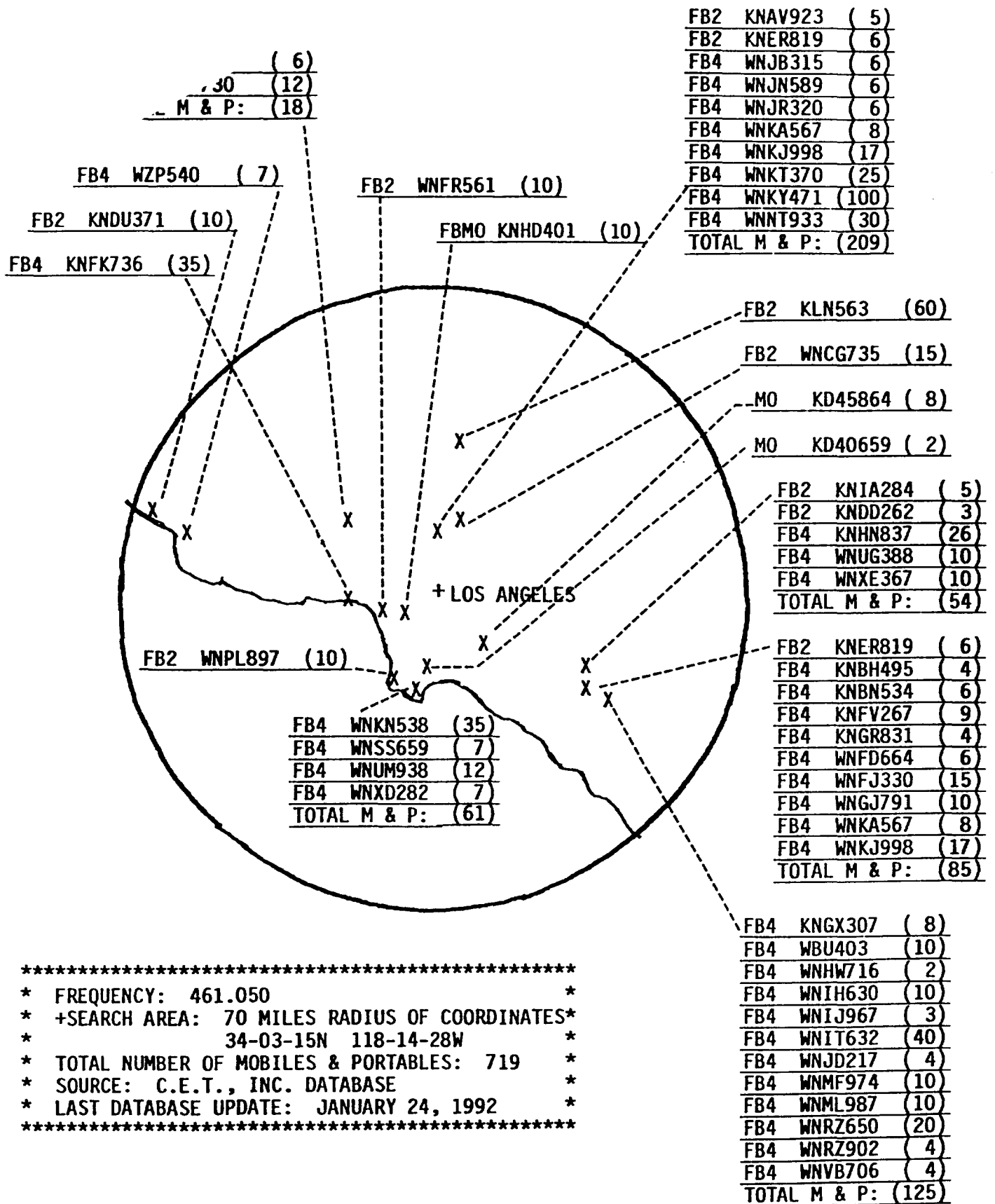
Metro Area



TDMA

**150 Units Per
Shared 25/30 KHz
Channel x 6 Time
Slots = 900 Units**

LOS ANGELES, CALIFORNIA



NEW YORK, NEW YORK

FB4 WNRB535 (121)

FBMO KIR381 (5)

FB4 WNLG777 (20)

FB2 KRD407 (20)

FB KBC366 (5)

FB2 KXX741 (40)

FB2 WNPV771 (60)

FB4 WNHP704 (5)

FB2 KRH908 (25)

FB2 WNBA325 (20)

FB4 WNJT271 (40)

FB2 KNIA770 (10)

TOTAL M & P: (80)

FB4 WNLZ378 (15)

FB4 WNMZ393 (25)

TOTAL M & P: (85)

FB4 WNKH460 (3)

FB4 WNLA835 (8)

FB4M WNHL249 (10)

TOTAL M & P: (21)

FB2 WNPQ359 (10)

FB4 KNBK621 (15)

FB4 KNJM922 (10)

FB4 KNJM974 (10)

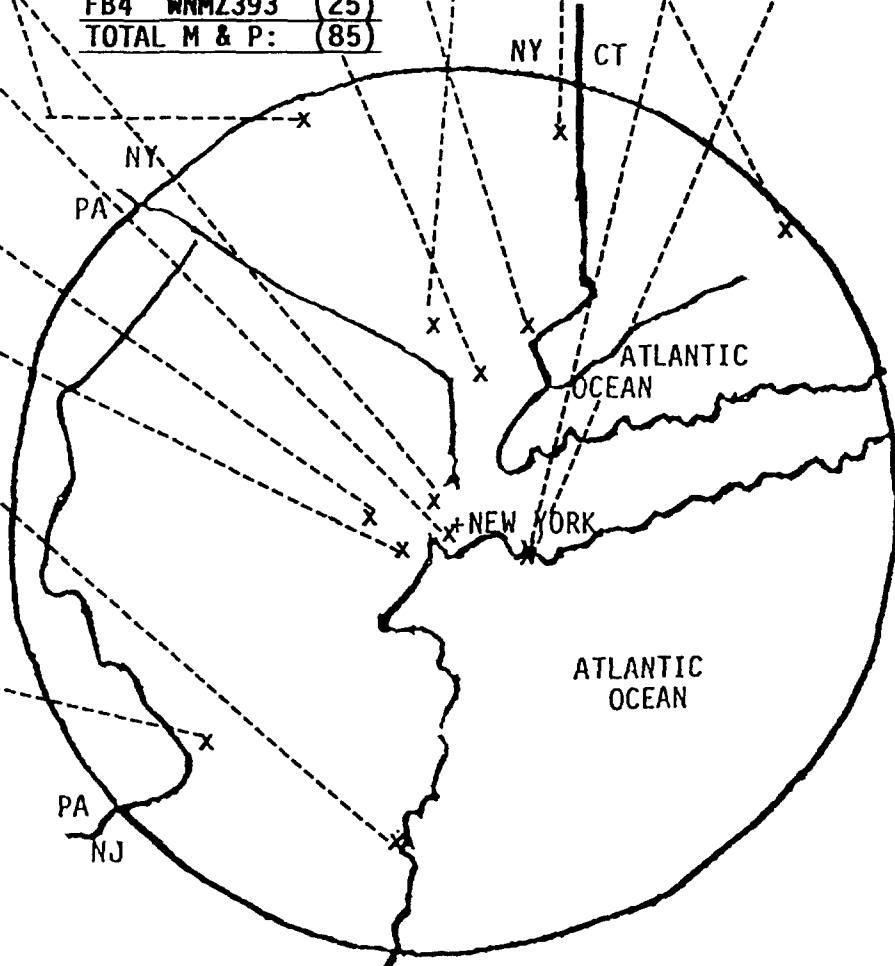
FB4 WNFJ211 (10)

FB4 WNGW773 (10)

FB4 WNQI284 (6)

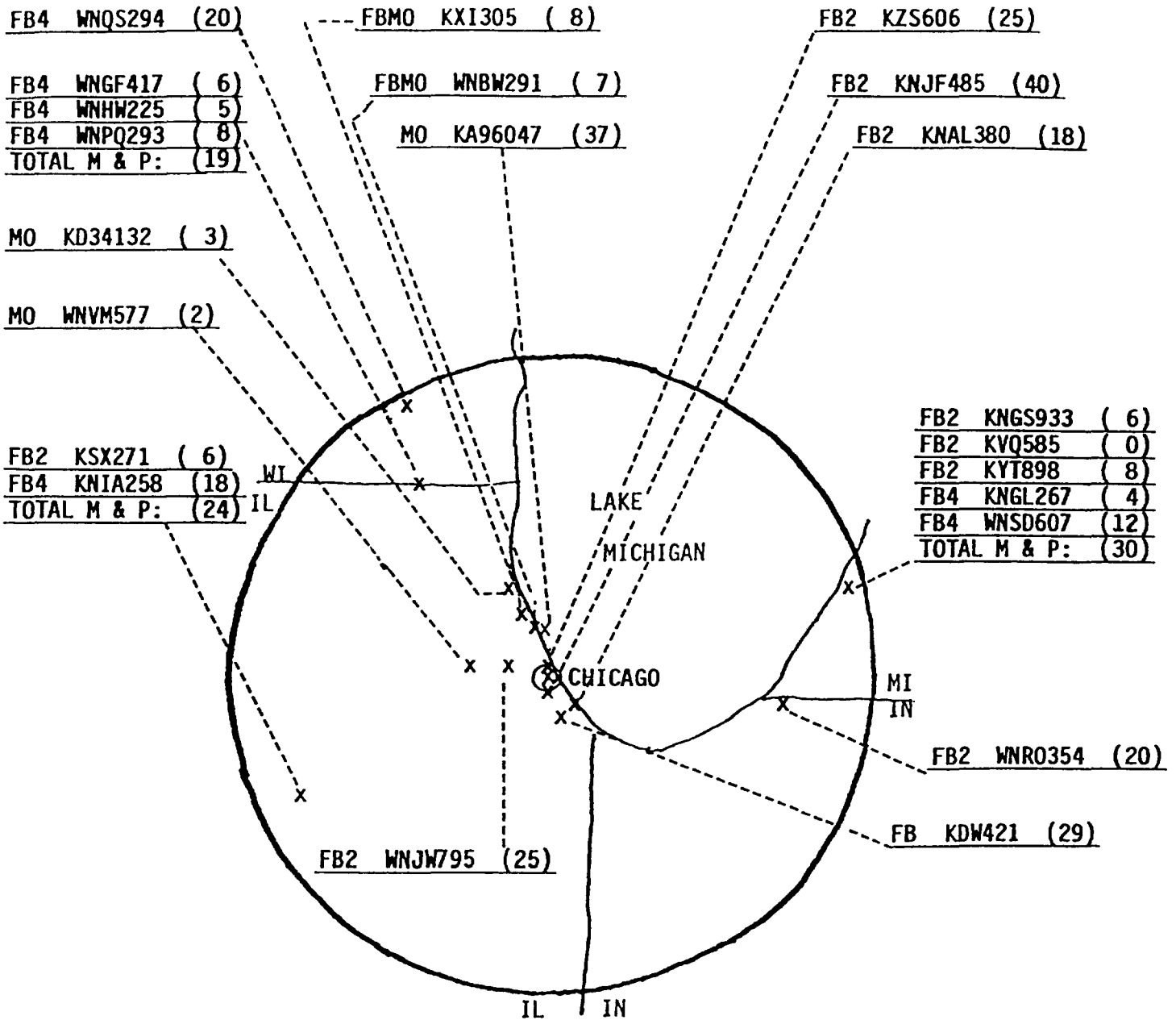
TOTAL M & P: (61)

FB4 WNUX679 (60)



 * FREQUENCY: 461.025 *
 * +SEARCH AREA: 70 MILES RADIUS OF COORDINATES*
 * 40-45-06N 73-59-39W *
 * TOTAL NUMBER OF MOBILES & PORTABLES: 563 *
 * SOURCE: C.E.T., INC. DATABASE *
 * LAST DATABASE UPDATE: JANUARY 24, 1992 *

CHICAGO, ILLINOIS



* FREQUENCY: 461.025 *

* +SEARCH AREA: 70 MILES RADIUS OF COORDINATES*

* 41-52-28N 87-38-22W *

* TOTAL NUMBER OF MOBILES & PORTABLES: 307 *

* SOURCE: C.E.T., INC. DATABASE *

* LAST DATABASE UPDATE: JANUARY 24, 1992 *
